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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/801,106	02/28/2001	Koji Egashira	33082M072	8270

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12/08/2006

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EXAMINER

PERRIN, JOSEPH L

ART UNIT	PAPER NUMBER
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1746

DATE MAILED: 12/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/801,106

Applicant(s)

EGASHIRA ET AL.

Examiner

Joseph L. Perrin, Ph.D.

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-18, 21, 24 and 25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11 and 18 is/are allowed.
- 6) ☒ Claim(s) 9, 10, 12-17, 21, 24 and 25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments in view of the amendment filed 04 October 2006 have been fully considered but they are not persuasive.
2. Turning to the rejection of the claims under 35 U.S.C. § 102, it is noted that the terminology in a pending application's claims is to be given its broadest reasonable interpretation (*In re Zletz*, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989)) and limitations from a pending application's specification will not be read into the claims (*Sjolund v. Musland*, 847 F.2d 1573, 1581-82, 6 USPQ2d 2020, 2027 (Fed. Cir. 1988)). Anticipation under 35 U.S.C. § 102 is established only when a single prior art reference discloses, either expressly or under the principles of inherency, each and every element of a claimed invention. See *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1570, 7 USPQ2d 1057, 1064 (Fed. Cir.), cert. denied, 488 U.S. 892 (1988); *RCA Corp. v. Applied Digital Data Sys., Inc.*, 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir. 1984). Moreover, anticipation by a prior art reference does not require either the inventive concept of the claimed subject matter or the recognition of properties that are inherently possessed by the prior art reference. *Verdegaal Brothers Inc. v. Union Oil co. of California*, 814 F.2d 628, 633, 2 USPQ2d 1051, 1054 (Fed. Cir. 1987), cert. denied, 484 U.S. 827 (1987). A prior art reference anticipates the subject matter of a claim when that reference discloses each and every element set forth in the claim (*In re Paulsen*, 30 F.3d 1475, 1478-79, 31 USPQ2d 1671, 1673 (Fed. Cir. 1994))

and *In re Spada*, 911 F.2d 705, 708, 15 USPQ2d 1655, 1657 (Fed. Cir. 1990)); however, the law of anticipation does not require that the reference teach what Applicant is claiming, but only that the claims "read on" something disclosed in the reference. *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 772, 218 USPQ 781, 789 (Fed. Cir. 1983), cert. denied, 465 U.S. 1026 (1984) (and overruled in part on another issue), *SRI Intel v. Matsushita Elec. Corp. Of Am.*, 775 F.2d 1107, 1118, 227 USPQ 577, 583 (Fed. Cir. 1985). Also, a reference anticipates a claim if it discloses the claimed invention such that a skilled artisan could take its teachings in combination with his own knowledge of the particular art and be in possession of the invention. See *In re Graves*, 69 F.3d 1147, 1152, 36 USPQ2d 1697, 1701 (Fed. Cir. 1995), cert. denied, 116 S.Ct. 1362 (1996), quoting from *In re LeGrice*, 301 F.2d 929, 936, 133 USPQ 365, 372 (CCPA 1962).

3. Regarding the §102 rejection, Applicant's argues that CHRISTENSON does not disclose rotating substrates about a horizontal axis or having ejecting orifices for ejecting "the processing liquid toward substantial centers of the substrates" (claims 10 and 24) or ejecting "the processing liquid obliquely to the processing surface of the plural substrates held by the substrate holder to make the processing liquid come into contact with substantial centers of the substrates" (claim 21). Particularly, applicant argues that Figure 5 of CHRISTENSON does not disclose ejecting fluid toward substantial centers of the substrates or rotation of the wafers. The Examiner disagrees. Firstly, as noted in the previous rejection applicant's intended use of ejecting the processing liquid "toward substantial centers of the substrates" is not afforded

significant patentable weight and fail to patentably distinguish from the apparatus disclosed by CHRISTENSON and that for at least the reason of gravitational flow of the fluid the apparatus of CHRISTENSON fully reads on applicant's claimed apparatus having the intended use of applying fluid "toward substantial centers of the substrates".

This can be clearly seen in Figure 5. Secondly, CHRISTENSON discloses an apparatus which may be adjustable and is fully capable of changing the spray angle and rotating the wafers as taught in the text of Figure 5 which clearly states "[t]he incidence angle α of any stream 330 can be the same or *it can be different* as desired for a particular application" and that "[a]lternative methods for aiding the distribution of ozonated water can also be used, including ... *rotation of the wafers* 319." (emphasis added, see col. 11, lines 24-46). For at least the foregoing reasons, recitation of CHRISTENSON reads on applicant's claimed apparatus.

4. Regarding the §103 rejection over CHRISTENSON and THOMPSON, applicant argues that THOMPSON does not overcome the deficiencies of CHRISTENSON. This is not persuasive because recitation of CHRISTENSON reads on applicant's claimed apparatus for at least reasons previously of record and reasons given above.

5. The Examiner notes that, while not deemed necessary in view of the §102 rejection of CHRISTENSON, U.S. Patent No. 4,027,686 to SHORTES *et al.* was cited as evidence of the known concept of using fan-shaped nozzles spraying in a plane at the center and across a rotatable semiconductor substrate.

Claim Rejections - 35 USC § 102

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 9-10, 12-13, 15, 17, 21 & 24-25 rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,274,506 to CHRISTENSON *et al.* (hereinafter "CHRISTENSON"). CHRISTENSON discloses a liquid processing apparatus comprising a processing container forming a chamber, horizontally holding the wafers, plural nozzles inclined at an incidence angle and arranged to spray processing liquid toward the center of the substrates, that "[t]he incidence angle α of any stream 330 can be the same or it can be different as desired for a particular application" and that "[a]lternative methods for aiding the distribution of ozonated water can also be used, including ... rotation of the wafers 319." (See entire document, for instance, Figure 5 and col. 11, lines 24-46). CHRISTENSON also discloses the nozzles may be fan-shaped (rectangular) which is readable on spraying in a "plane" (col. 8, line 23) and inclined (for instance, Figure 5). The Examiner notes that the intended use of spraying in a diameter or radius of the article to be worked upon is considered intended use and afforded little patentable weight since such use is wholly dependent on the variable size of the article being worked upon and the adjustable incidence angle disclosed by CHRISTENSON. MPEP 2115 and caselaw is replete with teachings disclosing that expressions relating an apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim. *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969). Furthermore, "[i]nclusion of material or article

worked upon by a structure being claimed does not impart patentability to the claims.”

In re Young, 75 F.2d 966, 25 USPQ 69 (CCPA 1935) (as restated in *In re Otto*, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963)). Moreover, the position is taken that one having ordinary skill in the art at the time the invention was made would have at once envisaged adjusting the incidence angle to achieve applicant's intended use since slightly adjusting the angle to redirect fluid flow to the wafer would have been a reasonable conclusion to the disclosed angle adjustability of CHRISTENSON.

Accordingly, recitation of the apparatus of CHRISTENSON reads on applicant's claimed invention.

Claim Rejections - 35 USC § 103

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over CHRISTENSON. Recitation of CHRISTENSON is repeated here from above. CHRISTENSON discloses plural nozzles (for instance, Figure 4) but does not expressly disclose the nozzles being arranged such that they are separate from each other in the circumferential direction of the substrates to be processed. However, the position is taken that it would have been obvious to one having ordinary skill in the art at the time the invention was made to rearrange the nozzles in either configuration discussed above, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70. Alternatively, the position is taken that it

would have been within the level and knowledge of one having ordinary skill in the art at the time the invention was made to provide additional nozzles in the processing container in the circumferential direction of the substrates since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8; *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960).

10. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over CHRISTENSON in view of THOMPSON '419 (previously cited). Recitation of CHRISTENSON is repeated here from above. CHRISTENSON discloses the claimed invention with the exception of the container having an inner face inclination angle. THOMPSON '419 teaches that it is known to provide a substrate processing container at an angle "to assist in effluent drainage" of the container (see Figures and col. 2, line 3 *et seq.*). Therefore, the position is taken that a person of ordinary skill in the art at the time the invention was made would have been motivated to modify the container of CHRISTENSON to angle or incline the container, as disclosed in THOMPSON '419, in order to provide more effluent drainage of the liquid processing apparatus.

Allowable Subject Matter

11. Claims 11 and 18 are allowed.

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

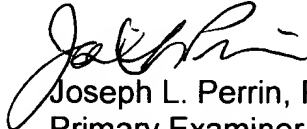
13. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph L. Perrin, Ph.D. whose telephone number is (571)272-1305. The examiner can normally be reached on M-F 7:00-4:30, except alternate Fridays.

15. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael E. Barr can be reached on (571)272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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16. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Joseph L. Perrin, Ph.D.
Primary Examiner
Art Unit 1746

JLP